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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,584	04/02/2001	Jean-Michel Espenan	2143/49565	1647

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EXAMINER

FORTUNA, ANA M

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,584

Applicant(s)

ESPENAN ET AL.

Examiner

Ana M Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003 and 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 38-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 26-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/15/03 has been entered.

Claim Rejections - 35 USC § 112

2. Claims 21-24, 26-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is unclear as to whether the feed pipe and the water inlet refer to the same element. The term installation is unclear as to whether a basin, as disclosed in the specification, is intended. Claim 1 is also incomplete as to whether the filtration volume, which is filled with water, is provided within the installation having the inlet and drain. The claim lack correspondence between the elements in the installation and the membrane modules. Claim 32 is incomplete, the claim fails to provide the modules within a basin, or is unclear as to the basin and the installation refers to the same member or element. Claim 33 is incomplete as to the term "pipes are at free ends", which should read " feed pipes are positioned at free ends". Claim 37 is unclear as to whether providing the installation

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having a dry compartment is intended, as to whether the "closed pipes refer to permeate pipes. The claim is unclear regarding the term "water to be filtered by closed pipes".

3. Claim 1, recites the limitation "membranes" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 23, 24, 26, 27, 31, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chenoweth (4,125,463)(hereinafter '463). in view of Norton (5,045,198)(hereinafter '198) and Rosenblat (3,617,928) (hereinafter '928). Chenoweth ('463) discloses a filtration installation including a water inlet, a connection to a drain, and an outlet for the product water (elements 50, 58, 31, 32 and 28), the membranes are hollow fibers disposed within cylindrical containers (elements 51 column 5, lines 12-41), and operated by the head pressure of water within the installation or permeator housing). A water feed pipe to the modules is also provided in the installation (element 55, column 5, lines 55-63). As to the structure of claim 1, reference '463 fails to

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disclosed the hollow fiber membrane module as having a U- Shape. Reference '463 however does not limited the hollow fiber module to a particular shape, and states that the module can obtained from any of the companies manufacturing permeators including a shell and many hollow fibers in the shell (container).(column 5, lines 19-21). Norton discloses hollow fiber modules having U-Shape and provided within a housing including inlet and outlet for filtering water, and an outlet for the concentrate, the fibers are potted at the same level and the potting section can be placed at the top or bottom of the housing (abstract, Figures 1-3, column 2, lines 48-60). It would have been obvious to one skilled in the art at the time the invention was made to substitute the housing containing hollow fiber membranes in the module of '463, for a U-Shaped module as disclosed in Norton, since Norton's module can be used for removing particles dissolved solids and microorganisms from water, components that are also contained in raw water or sea water. Rosenblat ('928 also discloses U-shaped hollow fiber membrane modules, including the standard inlets and outlets, the use of the module in water filtration is disclosed (column 9, lines 40-48). '928 also teach the use of the module in various positions with the only limitation that the feed water surrounds the bundle of hollow fibers(column 6, lines 27-33, column 8, lines 68-74). It would have been also obvious to one skilled in the art at the time the invention was made a module as disclosed by '928, as the membrane for Chenoweth, because the membrane in Chenoweth is not limited, and the housing/membrane position can be adjusted such that the inlet to the bundle can be placed in an inversed position, but directing the feed to the outside of the bundle, as is conventional in the art and illustrated by Norton.

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As to claim 22, Norton , as discussed above, and '928 (Fig. 2) disclosed the potting as claimed. As to claims 23-24, the operating pressure does not limit the apparatus structure, and it would be depending on the pore size of the membrane selected, e.g. for microfiltration membrane a very low pressure is required; reference to Norton teaches using microfiltration membranes, e.g. large pore size (abstract). As to claims 26-27, the membrane surface area and container size are not critical to the invention, one skilled in the art at the time the invention was made can scaled up or down and existing module, and adapted to its needs, e.g. volume to be handled, number of modules in the installation, etc. Regarding claim 31, Chenoweth modules are positioned vertically, reference '928 and Norton also disclose positioning the modules in a vertical position.(discussed above), see figures. As to claim 32, assuming the modules are disposed within the basin, the location of the inlet is not critical for a large size basin, e.g. for a large basin, one skilled in the art at the time the invention was made it would have been motivated to position the inlet at a level higher than the level of the water in the basin, and a column of water capable of producing the desired membrane operating pressure can be achieved, and not back pressure is exerted in the inlet conduit.

Allowable Subject Matter

6. Claims 28—30, and 33-37 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


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7. The following is a statement of reasons for the indication of allowable subject matter: The configuration or structure of the installation including the modules at the bottom of a basin, in which the basin is the installation, and combination with further limitations of the dependent claims is not disclosed or suggested in the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M Fortuna whose telephone number is (571) 272-1141. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Ana M Fortuna
Primary Examiner
Art Unit 1723

AMF
January 21, 2004